



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,836	02/05/2004	J. Christopher Flaherty	P2015 DIV 1	8515

28390 7590 12/07/2009
MEDTRONIC VASCULAR, INC.
IP LEGAL DEPARTMENT
3576 UNOCAL PLACE
SANTA ROSA, CA 95403

EXAMINER

KISH, JAMES M

ART UNIT	PAPER NUMBER
----------	--------------

3737

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

12/07/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

rs.vasciplegal@medtronic.com

Office Action Summary	Application No. 10/773,836	Applicant(s) FLAHERTY ET AL.	
	Examiner JAMES KISH	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35,37-48 and 51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5,7-14 and 16-18 is/are allowed.
- 6) ☒ Claim(s) 19-35,37-48 and 51 is/are rejected.
- 7) ☒ Claim(s) 6 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claims 6 and 15 are objected to because of the following informalities:

In claim 6, "herethrough" should be --therethrough--.

In claim 15, "patient=s" should be --patient's--. This typographical error is repeated throughout the entire claim set and should be corrected in all applicable instances.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 3737

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 19-21, 26-28, 35, 40-42 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara et al. (US Patent No. 4,950,267) – herein referred to as Ishihara – in view of Yoon (US Patent No. 5,336,176). Ishihara discloses a laser beam treatment device. Figure 2 illustrates the system that is used for the methods of delivering such treatment. Catheter body **3** contains a tissue penetrator **12**, the imaging device **13** is able to orient the catheter, and balloon **17** stabilizes the catheter body. This is also illustrated in Figure 3 with similar labeling. Column 3, line 52 through column 4, line 18 describes the procedure and the use of each of these portions of the device as they are claimed in claim 19. However, the penetrator of Ishihara is not described as having a hollow lumen for the introduction of a guidewire or other apparatus.

Yoon teaches an automatic retractable safety penetrating instrument. With the use of a hollow penetrating member, various instruments, such as lasers, can be introduced through the penetrating member... electric current can be transmitted along a component of the instrument for performing various electrosurgical procedures (column 3, line 9 through column 4, line 16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a hollow penetrating

Art Unit: 3737

member, as taught by Yoon, with the system and methods of Ishihara because Yoon specifically teaches the use of lasers, thereby allowing Ishihara to still provide laser treatment, while providing the further utility of providing a lumen through which any number of tools may be inserted through. Thereby, providing a more versatile device for any number of surgical procedures.

Regarding claims 40-42, Ishihara discloses a catheter body **3** contains a tissue penetrator **12**, the imaging device **13** is able to orient the catheter, and balloon **17** stabilizes the catheter body. Ishihara teaches an optical imaging portion of the device that is used to align a viewing window, which is located on the same side of the catheter as the penetrator, for alignment purposes (column 3, lines 1-23). While not explicitly stating a penetrator direction marker, the window itself marks the direction of penetration. Furthermore, while Ishihara discusses the optical imaging portion, it is obvious that a lumen within the catheter is required to carry the illumination light and the received signal to a viewing apparatus (see **19** of Figure 1).

Claims 22-23, 33 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara in view of Yoon as applied to claim 19 above, and further in view of Edwards et al. (US Patent No. 5,366,490) – herein referred to as Edwards. Ishihara discloses a catheter body **3** contains a tissue penetrator **12**, the imaging device **13** is able to orient the catheter, and balloon **17** stabilizes the catheter body. This is also illustrated in Figure 3 with similar labeling. Column 3, line 52 through column 4,

Art Unit: 3737

line 18 describes the procedure and the use of each of these portions of the device as they are claimed in claim 19. However, Ishihara only utilizes a single balloon for stabilization. Edwards teaches a medical probe comprising a catheter having a stylet guide housing with one or more stylet ports for directing the stylet through intervening tissue at a preselected, adjustable angle to a target tissue. The catheter can include one or more inflatable balloons located adjacent to the stylet port for anchoring the catheter (see Abstract). See Figures 1-3 for illustrations of the balloon configurations. Positioning of the guide is determined via ultrasonic imaging (column 6, lines 54-60). It would have been obvious to one of ordinary skill in the art to incorporate two balloons, as taught by Edwards, in the methods of Ishihara to provide better stabilization based on the torque that would be occur with the single expandable balloon as described by Ishihara.

Claims 24-25, 29, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara in view of Yoon as applied to claim 19 above, and further in view of Abele (US Patent No. 5,860,974). Ishihara discloses a catheter with a tissue penetrator, the imaging device is able to orient the catheter, and a balloon that stabilizes the catheter body. However, Ishihara does not explicitly teach that blood may continue to flow while the balloon is expanded. Abele teaches an expandable member in connection with a catheter. The expandable member may be of many configurations, including a balloon (Figures 7-9), four wires at right angles to each other (Figures 10-11), a twisted assortment of flexible members (Figures 12-13) or a helical configuration

Art Unit: 3737

of wires (Figures 14-15). In the balloon type expandable device, Abele teaches that one may use a fluoroscopic contrast agent (column 2, lines 57-61). It is obvious to one of ordinary skill in the art that a wire basket is a functional equivalent to an expandable balloon and would be an obvious matter of design choice to choose a balloon when it is desirable to, for example, occlude the vessel during treatment, or to choose one of the wire configurations if it is desirable to allow blood to continue to flow.

Regarding claim 25, Figure 8 of Abele illustrates that a balloon may be filled halfway and it would be obvious to one of ordinary skill in the art that an operator would be capable of filling the balloon of Ishihara halfway if such inflation parameters were desirable for the procedure being performed.

Regarding claims 29, Abele teaches that a wire basket is a functional equivalent to an expandable balloon. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made that the penetrator could be moved to a location that is surrounded by the stabilizing device and would allow the penetrator to perform the operation unaffected by the stabilizer. Therefore, it would be a matter of design choice to move the penetrator's exit port within the stabilizer. *See In re Japikse*, 86 USPQ 70.

Claims 30-31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara in view of Yoon as applied to claim 19 above, and further in view of Faxon et al. (US Patent No. 5,464,395) – herein referred to as Faxon. Ishihara discloses a catheter with a tissue penetrator, the imaging device is able to orient the catheter, and a

Art Unit: 3737

balloon that stabilizes the catheter body. However, Ishihara does not describe the stabilizer as being non-concentrically about the catheter body. Faxon teaches a catheter for delivering agents via a tissue penetration means and utilizing a stabilizing balloon (see Figure 1). Faxon describes several different embodiments of the balloon's configuration around the catheter body, including that illustrated in Figures 1 and 3, Figures 12 and 13, and Figures 17-19 (which is similar to that of Ishihara). It would have been an obvious matter of design choice to selecting one of these specific balloon configurations over the other, as Faxon illustrates that each are equally as capable of performing the desired function.

Claims 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara in view of Yoon as applied to claim 19 above, and further in view of Buelna (US Patent No. 5,209,749). Ishihara discloses a catheter with a tissue penetrator, the imaging device is able to orient the catheter, and a balloon that stabilizes the catheter body. However, Ishihara does not teach an external imager for orienting the device. Buelna teaches a cuttern assembly, which comprises a catheter with a balloon. A fluoroscopic image is used to orient the device based on a radiopaque marker carried by the catheter. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize an external imaging unit, such as the fluoroscopic method taught by Buelna, with the system of Ishihara, in order to properly align the device prior to the application of therapy as an functional equivalent to the optical imaging method taught by Ishihara.

It would be an obvious variant to position the marker at any location on the stabilizer that would allow the user to align the penetration device, whether that be on the same side as the penetrator or on the opposite side from the penetrator.

Claims 43-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara in view of Yoon as applied to claim 19 above, and further in view of Seward et al. (US Patent No. 5,345,940) – herein referred to as Seward. Ishihara discloses a catheter with a tissue penetrator, the imaging device is able to orient the catheter, and a balloon that stabilizes the catheter body. However, Ishihara fails to disclose the use of this catheter system with the specific procedures claimed in claims 43-48. Seward teaches a catheter with a working tool **56** or **84** (column 7, lines 11-13) and an imaging device. Seward teaches many procedures that may be performed with such an apparatus. See column 10, line 15 through column 11, line 53. One such example is the ablation of bypass tracts (column 10, lines 45-47). While Seward, like Ishihara, does not explicitly teach the specific procedures provided in the claims of the current application, Seward states "It is anticipated that intravascular, transvascular, and intracardiac device could be delivered through the port means... within or about the heart and blood vessels of the body (column 11, lines 36-39)." Also, "The catheter **20** will evolve into the ultimate interventional system (column 11, lines 67-68)." As well as, "There are multiple other and yet-to-be-determined applications (column 11, lines 49-50)." Therefore, it would have been obvious to one of ordinary skill in the art at the time

Art Unit: 3737

the invention was made to utilize a catheter such as Seward, and also Ishihara's catheter which further improves upon Seward's by administration of a stabilizing balloon (Seward is motivated to incorporate such new technologies at column 11, lines 31-33) in order to perform bypass surgeries for the purposes of revascularization of adjacent blood vessels. This would be obvious to one of skill in the art to incorporate coronary revascularization, TIPS, TEPS and/or the creation of arterio-venous fistulas.

Allowable Subject Matter

Claims 1-5, 7-14 and 16-18 are allowed in view of the Terminal Disclaimer filed on August 28, 2009, which was approved on September 23, 2009.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3737

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES KISH whose telephone number is (571)272-5554. The examiner can normally be reached on 8:30 - 5:00 ~ Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art
Unit 3737

JMK